

[END PROPRIETARY]

But these various measures of decline understate MCI's competitive *insignificance* in the mass market. This is so for two reasons. *First*, because MCI no longer has a regulatory entitlement to UNE-P, it can continue to supply its service *only* if doing so creates a win-win opportunity for MCI *and* the incumbent, such that the incumbent would voluntarily select MCI as an alternative distributor of its product. Incumbents have no obligation under the antitrust laws to maintain a distributor relationship with MCI.²³

Second, MCI is steadily increasing the amount that consumers pay. MCI has done so by adding new fees and charges to every consumer's bill. Since September 2004 (before any increase in wholesale costs), MCI has increased the total cost paid by consumers for MCI's Neighborhood Unlimited by **[BEGIN PROPRIETARY]** **[END PROPRIETARY]** per

²³ See *Verizon Communs., Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004); *Covad Communs. Co. v. Bell Atl. Corp.*, 398 F.3d 666 (D.C. Cir. 2005).

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month on average in the Verizon region for its Neighborhood Unlimited product. In particular, MCI increased its property tax surcharge from [BEGIN PROPRIETARY] [END PROPRIETARY] of interstate usage to [BEGIN PROPRIETARY] [END PROPRIETARY], imposed a paper billing charge of [BEGIN PROPRIETARY] [END PROPRIETARY], and imposed a carrier access charge of [BEGIN PROPRIETARY] [END PROPRIETARY] in every state in the nation.

This trend is sure to continue. [BEGIN PROPRIETARY] .²⁴

END PROPRIETARY]

²⁴ [BEGIN PROPRIETARY]

MCI's prices are already above the prices charged by intermodal competitors. MCI's unlimited all-distance product costs [BEGIN PROPRIETARY] [END PROPRIETARY] on average in the former Bell Atlantic region when all fees are included. For the same unlimited all-distance product, Cablevision charges a list price of \$34.95, with no additional fees, to customers that also purchase broadband services.²⁵ Time Warner charges \$39.95 for customers that purchase video or broadband service with no surcharges apparent on the Time Warner web site. T-Mobile charges \$39.99 for a wireless plan that includes 600 peak minutes and unlimited nights and weekends with what appear to be minimal additional surcharges and fees. Vonage charges \$26.49 for its unlimited all-distance VoIP service including fees. Other VoIP services offered by Packet8, Lingo, BroadVoice, and others are priced even lower. This divergence between MCI's prices and the prices of intermodal competitors prevails across Verizon's footprint and the Nation.²⁶

MCI's UNE-P replacement agreements are thus best understood as transitional arrangements. While the agreements enable MCI to continue to serve its mass market customers in the near future, they do not enable MCI to provide retail services at competitive price levels throughout the country on a long-term basis. The contracts prevent the immediate dislocation of MCI's voice customers, but they cannot stave off a steady decline in MCI's business over the next three years. As MCI's costs increase, it will be forced to raise its retail rates even more to avoid operating the service at a loss. The increasing rates will in turn cause its existing

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²⁵ All prices (other than MCI's) listed in this paragraph were obtained from the competitor's web site.

²⁶ See Decl. Hassett, et al. Exh. 2.

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customers to switch to competing facilities-based providers that are cutting their prices to meet intense intermodal competition.

2. MCI Could Not Become a Significant Competitor by Selling Mass Market Services Over Unbundled Incumbent Loops.

As the regulatory availability of the UNE-P appeared to be in increasing jeopardy, MCI thoroughly analyzed the possibility of providing mass market service through a combination of UNE loops and its own switching. Based on a series of aggressive assumptions, MCI concluded that this strategy might be feasible in some limited areas, and its Board in May 2004 authorized an investment of \$180 million to pursue the strategy in a few geographic markets.²⁷ As it continued its evaluation, however, MCI recognized that this investment would be imprudent based on realistic projections about costs, revenues, and the regulatory climate on which the strategy hinged. Taking all of these factors into account, MCI abandoned its UNE-L strategy before its merger agreement with Verizon was consummated.

MCI's plan called for it to use UNE-L as a supplement to UNE-P, particularly in the early stages when it would need UNE-P to continue serving customers while it augmented its network facilities to expand the areas in which it could use UNE-L.²⁸ Moreover, because MCI's proposed plan deemed UNE-L to be viable only in a limited number of markets, MCI also needed to be able to use UNE-P to maintain a larger customer base over which it could spread its common marketing and service costs.²⁹ When the D.C. Circuit issued its decision in *United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004), vacating the FCC's UNE-P

²⁷ See Huyard Decl. ¶ 14.

²⁸ See, e.g., Huyard Decl. ¶ 13-14.

²⁹ See, e.g., Huyard Decl. ¶ 14.

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requirement for the third time, MCI put its UNE-L investment plans on indefinite hold.³⁰ The FCC's permanent elimination of this requirement removed a key underpinning of MCI's UNE-L strategy. That, coupled with the fact that other assumptions underlying the business case were not realized and the general uncertainty associated with whether a UNE-L strategy could be profitable at all,³¹ prompted MCI to abandon its UNE-L plans permanently.

3. MCI Will Not Be a Competitively Significant Retail VoIP Provider.

MCI also could not become one of a small number of significant providers of retail VoIP service. In June 2005, well after other traditional wireline carriers such as AT&T and Qwest began offering VoIP service, MCI began a limited VoIP trial branded "Neighborhood Broadband Calling." In this trial, MCI is reselling another provider's VoIP service, along with necessary customer premise equipment. MCI expects only a small number of sales based on its limited marketing, even though the service is nominally available in portions of 42 states and the District of Columbia through its wholesale partner. Although it is too early to draw definitive conclusions, outbound telemarketing, which has traditionally been MCI's primary marketing vehicle, has not shown itself to be an efficient means of customer acquisition, and sales through inbound calls (largely driven by direct mail marketing) have been weak as well.

MCI has no plans to use VoIP to stem or reverse the continuing decline in its mass market business. MCI is new at this quite different business and is well behind numerous other competitors in bringing this service to market. There are already a large number of retail VoIP providers, including Vonage, Covad, AOL, EarthLink, VoicePulse, Net2Phone, FuturaVoice, eGlobalPhone, VoIP.net, Packet 8, Lingo, BroadVox, and others. Large Internet companies

³⁰ See Huyard Decl. ¶ 14.

³¹ See, Huyard Decl. ¶ 15.

selling related applications and maintaining well-known brand names, such as Microsoft and Yahoo!, are likewise expected to begin offering VoIP services in the near future.³² There is no reason to believe that MCI will achieve unique success in this crowded field.

4. Competitive Constraints Now Come From Cable Companies and Other Intermodal Operators, Including Wireless and VoIP

Verizon's most significant competitive constraints come from intermodal competitors. By contrast to MCI—which has an eroding customer base, whose marketing efforts are shrinking, and which resells Verizon's assets—intermodal competitors do not rely as heavily on Verizon's facilities, and their sales gains result in an almost complete revenue loss for Verizon. Moreover, customers lost to cable companies and other intermodal competitors almost never return. Verizon—and every outside analyst report addressing the subject—therefore focus exclusively on intermodal competition as the key competitive driver in the mass market today and over the next decade. Because consumers increasingly view wireless, cable telephony, and VoIP as viable alternatives to wireline service, wireline access lines are now falling at a 5.2% annualized run-rate.³³ Industry experts forecast that cable and VoIP will have almost 7 million subscribers by year end and that in five years 45% of U.S. households will either be wireless only or will use VoIP to make their calls.³⁴

³² Cassell Bryan-Low and Brian Lagrotteria, *Microsoft and France Telecom Team Up on Products, Services*, Wall Street Journal, July 7, 2005, p. B3; Erick Schonfeld, *Web Calls Are More than Just Talk: VOIP May Be the Next Big Thing in Telephony. The Web Powerhouses Aren't Waiting Around to Find Out*, Business 2.0, July 7, 2005, available at http://money.cnn.com/2005/07/07/technology/techinvestor/tech_biz/ (last visited July 29, 2005).

³³ See Qaisar Hasan and May Tang, Buckingham Research Group, *The Last Mile – Monitoring Quarterly Trends in Telecommunications, Video and Data* at 1 (Aug. 18, 2005).

³⁴ See John Hodulik and Aryeh Bourkoff, UBS Investment Research, *Broadband Hit by Seasonality as VoIP Ramps* at 15 (Aug. 16, 2005); Frank G. Louthan, IV, Raymond James & Associates, Inc., *Reassessing the Impact of Access on Wireline Carriers* at 2 (July 11, 2005).

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Verizon's business people understand the collapsing significance of MCI's role in the mass market. It should therefore be no surprise that, in 2005, Verizon has not initiated *any* competitive response directed exclusively at MCI or any other UNE-P provider. Verizon has initiated no cut in price, offered no enhancement in service, and made no investment in response to UNE-P competition. In contrast, Verizon has gone to great lengths—investing \$1 billion in 2004, \$2 billion in 2005, and billions more in the near future—to respond to threats from cable and other intermodal competitors.³⁵ It has rolled out new services, cut its broadband prices, and embarked on a long, risky, and difficult process to reconstruct virtually its entire network to meet the competitive threat they present.

a. Cable

Cable companies began providing mass market voice telephone service over their networks using circuit switches and are now aggressively rolling out VoIP service to their customers in almost all their service territories. By the end of 2003, cable companies offered circuit-switched voice telephone service to more than 15 percent of homes nationwide; by the end of 2004, they offered telephony services (VoIP or switched) to at least 32 percent of U.S. households. The figure is expected to increase to nearly 90 percent by 2007.³⁶ Some major cable operators, including Time Warner Cable and Cablevision, already offer telephony services in all of their footprint, while others, including Cox and Comcast, plan to reach that milestone by

³⁵ Verizon, of course, does try to win back customers who switch to competitors, including MCI. It offers departed residential customers American Express gift checks of \$25 or \$50, and rebates of \$75 or \$100, depending on the state in which they reside and the length of time they have been customers of a competitor. Verizon makes the larger of these winback offers, which are all tariffed, in those states in which it has lost the largest number of lines on a *net* basis. Competitors, such as MCI, that are themselves losing lines on a *net* basis are not a factor in this equation.

³⁶ Jeffrey Halpern, et al., Bernstein Research Call, *Quarterly VoIP Monitor: The "Real" Price Gap for VoIP Driving Rapid Subscriber Growth* at 10 Exh. 11 (July 15, 2005).

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year-end 2006 at the latest.³⁷ One Wall Street analyst has noted: "By the end of 2006, [VoIP] will be offered almost ubiquitously by cable operators."³⁸

The surging availability of cable telephony service has been accompanied by rapid growth in the number of cable telephony subscribers. According to FCC survey data, as of January 2004, approximately 13 percent of customers that were offered cable telephony were subscribing to the service.³⁹ Some cable operators report that, in some areas, their telephony services have been purchased by as much as 20-40 percent of their cable subscribers.⁴⁰ The five largest cable companies together already have far more local residential phone subscribers than does MCI.⁴¹ Collectively, cable companies are expected to serve nearly six million lines by the

³⁷ See Craig Moffett, *et al.*, Bernstein Research Call, *Cable and Telecom: VoIP Deployment and Share Gains Accelerating; Will Re-Shape Competitive Landscape in 2005*, December 7, 2004; see also, Thomson StreetEvents, *TWX—Q4 2004 Time Warner Inc. Earnings Conference Call*, Conference Call Transcript, February 4, 2005 (statement of Time Warner Inc. CFO Wayne Pace); Cablevision News Release, "Cablevision Systems Corporation Reports First Quarter 2005 Results" (May 5, 2005); See Comcast, presentation at the Bear Stearns 18th Annual Media, Entertainment & Information Conference at 10-11 (Mar. 2, 2005).

³⁸ Craig Moffett, *et al.*, Bernstein Research Weekly Notes, *Cable and Telecom: VoIP Will Reshape Competitive Landscape in 2005*, December 17, 2004.

³⁹ See Report on Cable Industry Prices, *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992*, MM Docket No. 92-266, FCC 05-12, ¶ 37 & Table 10 (rel. Feb. 4, 2005).

⁴⁰ See, e.g., Chris Bowick, SVP Engineering & CTO, Cox Communications, *Cox Communications: Distribution at Its Best*, presentation at the Bear Stearns 17th Annual Media, Entertainment & Information Conference at 19 (Mar. 8, 2004); *Q1 2004 Cox Communications Inc. Earnings Conference Call—Final*, FD (Fair Disclosure) Wire, Transcript 042904as.714 (Apr. 29, 2004) (Pat Esser, Cox executive vice president & COO); Cox News Release, *Cox Brings Telephone to Five New Markets in '05* (Mar. 8, 2005) ("In some communities, such as Omaha, Neb. and Orange County, Calif., 40 percent of consumers subscribe to Cox Digital Telephone.").

⁴¹ Cox Communications; Form 8-K, May 10, 2005; Comcast Corporation First Quarter 2005 Results, Financial Tables, April 28, 2005; Time Warner First Quarter 2005 Results, May 4, 2005; Cablevision, Deutsche Bank Securities Media Conference Presentation, June 6, 2005; Charter Communications, Form 10-Q, May 3, 2005; Vonage, Press Releases, January 5, 2005 and May 9, 2005; MCI Inc., Form 10-Q, May 9, 2005. As noted below, *see infra*, MCI has slightly more than 100,000 standalone local lines. The five largest cable companies already had almost a million VoIP subscribers by

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end of 2005 and more than 10 million by year-end 2006.⁴² Analysts expect that cable companies will achieve an overall penetration rate of 15-20% within the next five years.⁴³

The cannibalization of traditional wireline residential service is particularly pronounced in Verizon's service territories. Analysts have noted that Verizon is particularly exposed to competition from Time Warner and Cablevision, two of the most aggressive cable competitors for telephony service.⁴⁴ Verizon's "worse-than-peer access line trend is at least partly reflective of its overlap with cable telephony;" as a result, "Verizon is again likely to lead the access line declines" in 2005 among incumbent carriers.⁴⁵

Each of the four largest cable companies has made substantial inroads in providing telephony service:

the end of 2004. See Viktor Shvets & Andrew Kieley, Deutsche Bank, *VoIP: State of Play* at 4 (June 22, 2005).

⁴² See Frank Governali, et al., Goldman Sachs, *Americas: Telecom Services*, January 12, 2005.

⁴³ See, e.g., Douglas S. Shapiro, et al., Banc of America Securities Research Brief, *Battle for the Bundle: Mapping the Battlefield, Our First Report from the Front*, at 3 (June 14, 2005) ("Cable should have 19.8 million telephony subs by 2010, or 18% penetration of homes passed."); see also Frank G. Louthan IV & Ben Gordon, Raymond James Equity Research, *Reassessing the Impact of Access Lines on Wireline Carriers*, at 1 (July 11, 2005) (estimating that cable and standalone VoIP will reach over 20% of residential households by 2010); Jeffrey Halpern, et al., Bernstein Research Call, *Quarterly VoIP Monitor: The "Real" Price Gap for VoIP Driving Rapid Subscriber Growth* at 1 (July 15, 2005) ("[W]e estimate that each of the RBOCs will have lost 17% to 19% of their residential lines to cable telephony by 2010."); See Frank Governali, et al., Goldman Sachs, *Americas: Telecom Services*, January 12, 2005.

⁴⁴ Jeffrey Halpern, et al., Bernstein Research Call, *US Telecom 1Q05 Review: Broadband, Wireless Growth Highlight Positives; Access Lines Start to Show VoIP Impact* at 4 (May 9, 2005); David Barden, et al., Banc of America Securities Research Brief, *Setting the Bar: Establishing a Baseline for Bell Consumer Market Share*, at 2 (June 14, 2005) ("We believe Verizon, facing Time Warner and Cablevision, has been most affected, both as a company and as a stock, by the presence of VoIP competition in its territory.").

⁴⁵ Jeffrey Halpern, et al., Bernstein Research Call, *US Telecom 1Q05 Review: Broadband, Wireless Growth Highlight Positives; Access Lines Start to Show VoIP Impact* at 4 (May 9, 2005); S. Flannery, et al., Morgan Stanley, *Telecom Services, 1Q05 Preview: The First Glimpse of 2005*, April 19, 2005.

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- *Time Warner*: Time Warner now offers VoIP in all 31 of its markets, passing a total of more than 19 million homes.⁴⁶ It added over 240,000 net new customers in the second quarter of 2005, about sixty percent more than it added in the first quarter.⁴⁷ It is now adding more than 18,000 net new subscribers per week.⁴⁸ For example, in Portland, Maine up to 18 percent of homes passed are subscribing to Time Warner's VoIP service.⁴⁹
- *Cablevision*: Cablevision now offers telephony service to all of the homes it passes and is already providing service to more than 8 percent of those homes.⁵⁰ Analysts expect that Cablevision's penetration rate will double to 16 percent by the end of the year.⁵¹ Cablevision added more than 100,000 voice telephony customers in the second quarter of 2005 and now has approximately 478,000 customers.⁵² Cablevision recently reported that it is "growing at a rate of approximately 1% of [its] homes-passed per month."⁵³
- *Comcast*: Comcast recently announced that it already has over 3.5 million homes marketable with its Digital Voice offering.⁵⁴ Comcast plans to expand its VoIP

⁴⁶ See Thomson StreetEvents, *TWX—Q4 2004 Time Warner Inc. Earnings Conference Call*, Conference Call Transcript, February 4, 2005 (statement of Time Warner Inc. CFO Wayne Pace); Time Warner Cable, *About Us Company Highlights*, <http://www.timewarnercable.com/corporate/aboutus/companyhighlights.html> (last visited July 21, 2005).

⁴⁷ Time Warner Inc., Presentation of Wayne Pace, CFO, *Time Warner Inc.: Second Quarter 2005 Results* (Aug. 3, 2005).

⁴⁸ Time Warner Press Release, *Time Warner Inc. Reports Second Quarter 2005 Results* (Aug. 3, 2005).

⁴⁹ *Time Warner Inc. at Banc of America Securities Media, Telecommunications and Entertainment Conference—Final*, FD (Fair Disclosure) Wire, Transcript 033005ac.759 (Mar. 30, 2005) (quoting Time Warner Cable Chairman & CEO Glenn Britt).

⁵⁰ Cablevision News Release, "Cablevision Systems Corporation Reports First Quarter 2005 Results" (May 5, 2005); Douglas S. Shapiro, et al., Banc of America Securities Research Brief, *Battle for the Bundle: Mapping the Battlefield, Our First Report from the Front*, at 4 (June 14, 2005); Jeffrey Halpern, et al., Bernstein Research Call, *Quarterly VoIP Monitor: The "Real" Price Gap for VoIP Driving Rapid Subscriber Growth* at 3 (July 15, 2005).

⁵¹ Jeffrey Halpern, et al., Bernstein Research Call, *Quarterly VoIP Monitor: The "Real" Price Gap for VoIP Driving Rapid Subscriber Growth* at 3 (July 15, 2005).

⁵² Cablevision Press Release, *Cablevision Systems Corp. Reports Second Quarter 2005 Results* (Aug. 9, 2005).

⁵³ *Q2 2005 Cablevision Systems Corp. Earnings Conference Call - Final*, Transcript 080905ag.778, FD (Fair Disclosure) Wire (Aug. 9, 2005).

⁵⁴ Thomson StreetEvents, *CMCSA - Q2 2005 Comcast Corporation Earnings Conference Call - Final Transcript* at 5 (Aug. 2, 2005).

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deployment to 15 million homes passed by the end of 2005, and to all the 40 million homes it passes by the end of 2006.⁵⁵ Comcast expects to add 1 million VoIP customers next year and to achieve 20 percent penetration within five years.⁵⁶

- *Cox*: Cox, which already offers circuit-switched voice telephone service and VoIP to 6.8 million of the 10.7 million homes it passes nationally, will roll out VoIP service to five more markets this year to reach a total of 70 percent of homes passed.⁵⁷ During the second quarter of 2005, it added 89,000 digital voice customers, ending the quarter with over 1.5 million telephone customers.⁵⁸

The competitive threat from cable companies is particularly high because cable competitors have an historical advantage in two of the three elements of the so-called triple play bundle (video, broadband and voice). With respect to video, cable television subscribers far outnumber subscribers to satellite services (which Verizon currently resells), and Verizon has yet to deploy its own video service. Moreover, cable modem service has a significant lead over DSL in broadband subscribership. *See, e.g.,* Hassett et al. Reply Decl. ¶ 38. As a result, cable operators will be able to take advantage of their lead in video and data to grow telephony.

⁵⁵ See Comcast, presentation at the Bear Stearns 18th Annual Media, Entertainment & Information Conference at 10-11 (Mar. 2, 2005).

⁵⁶ See Thomson StreetEvents, *Q2 2005 Comcast Corporation Earnings Conference Call*, Conference Call Transcript at 5 (Aug. 2, 2005); Thomson StreetEvents, *CMCSA—Q4 2004 Comcast Corporation Earnings Conference Call, Final Transcript*, February 3, 2005 (Comcast COO & President Steve Burke: “[W]hen you look at what Cox, and more recently Cablevision, and others have done in this business, we think the 20 percent penetration is very reasonable within a five-year time period.”).

⁵⁷ Cox Communications Inc. Summary of Operating Statistics, *attached to Cox News Release, Cox Communications Announces Second Quarter and Year-to-Date Financial Results for 2005* (Aug. 9, 2005); Cox News Release, *Cox Names New 2005 Telephone Markets* (Aug. 1, 2005).

⁵⁸ Cox News Release, *Cox Communications Announces Second Quarter and Year-to-Date Financial Results for 2005* (Aug. 9, 2005).

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BROADBAND COMPOSITION

	2004	2005	2006	2007	2008	2009
Cable	59%	56%	55%	54%	53%	52%
DSL	39	42	43	43	43	43
Other	2	2	2	3	4	5
TOTAL	100%	100%	100%	100%	100%	100%

Source: Deutsche Bank - Telecom Data Book - August 2004

One reason for Verizon's investment in its Fiber-to-the-Premises (FTTP) plan is to compete with cable. The fiber will improve available bandwidth to meet or exceed current speeds available to those customers using cable modems. Verizon also plans to use FTTP to expand its product set to include video. During 2004 Verizon invested over \$1 billion in the rollout; as a result FTTP passed almost a million homes at the end of 2004. For the next several years, Verizon plans significant continued investment. In 2005 alone, for instance, Verizon expects to spend over \$2 billion on FTTP. It has begun building its FTTP network in 14 states: California, Delaware, Florida, Indiana, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Oregon, Pennsylvania, Rhode Island, Texas and Virginia.

The voice telephony offerings from cable have already led to price competition. *See, e.g., Hassett et al. Decl. ¶¶ 53-55 & Ex. 2.* As one analyst observed, "the Bells appear to be responding to the VoIP threat with price cuts" on their calling plans as cable companies such as Cablevision have begun to achieve significant market share due in large part to their "aggressive pricing."⁵⁹

Verizon has recognized that it must make a variety of competitive responses to the threat from cable, such as reducing prices, expanding video and broadband offerings, and increasing local marketing efforts. Thus, for example, Verizon has planned a range of responses to

⁵⁹ Jeffrey Halpern, *et al.*, Bernstein Research Call, *Quarterly VoIP Monitor: The "Real" Price Gap for VoIP Driving Rapid Subscriber Growth* at 5 (July 15, 2005).

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Comcast's voice offering, such as maintaining its discount and feature advantages. Similarly, Verizon has developed a new offer to bring its own pricing closer to Cablevision. The addition of FiOS allows Verizon to provide even more compelling price offers in local markets. The cable companies also adjust their rates to Verizon's offerings. For example, when Verizon introduced FiOS in the Los Angeles area, Time Warner responded by offering 6MB broadband for the price of 3MB. In addition, Cox offers very aggressive promotions including half-off offers. Cox's marketing efforts sometimes target Verizon directly. For instance, in Rhode Island, Cox has been running anti-Verizon ads. Of course, it is cable providers' ownership of their own facilities to deliver rival service that makes this competition possible.

b. Wireless

Wireless voice service is a close alternative for wireline service, is priced similarly, and thus competitively disciplines wireline services. As a result, wireless companies continue to increase their minutes of use and subscriptions at a double-digit pace, while wireline services are experiencing not just a decline in their percentage of overall voice minutes but absolute declines in revenue and number of access lines. That trend is likely to accelerate as existing wireless companies continue to improve their service and reliability and new wireless entrants with new technologies offer competitive fixed wireless service.

Along with cable, wireless service is currently the principal alternative to traditional telephony.⁶⁰ Verizon's landline business faces competition throughout its service area from national wireless providers including Verizon Wireless, Cingular, Sprint, Nextel, T-Mobile, and significant regional competitors. As the FCC recently noted, wireless service has grown so

⁶⁰ See David W. Barden, et al., Banc of America Securities, *Setting the Bar: Establishing a Baseline for Bell Consumer Market Share* at 5 (June 14, 2005).

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spectacularly that the most common way to obtain local telephone service now is to subscribe to wireless service: of 362 million voice lines counted by the FCC at the end of 2004, 181.1 million—more than 50%—are wireless.⁶¹

Both consumers and suppliers⁶² view wireless as an alternative to wireline services, resulting in wireless putting competitive pressure on wireline. Wireless displacement occurs on at least three levels. First, wireless minutes generally displace wireline minutes. Second, because of the prevalence of wireless phones, customers buy fewer second or third lines than they would absent competition from wireless. Third, an increasing number of customers use only wireless minutes by “cutting the cord.”

Wireless thus competes with landline. As Keith Mallinson, head of the Yankee Group’s wireless practice, explains in the attached report, “[w]ireless displacement of local and long

⁶¹ See *Federal Communications Commission Release Data on Local Telephone Competition*, 2005 WL 1604189 (F.C.C.) (rel. July 8, 2005), available at http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD/lcom0705.pdf (last visited July 29, 2005).

⁶² See *Application for Transfer of Control, Applications of Nextel Communications, Inc. and Sprint Corp.*, WT Docket No. 05-63, at 30, 31 (FCC filed Feb. 8, 2005) (the combined Sprint/Nextel “will position its services as a competitive alternative to wireline service, to the benefit of intermodal competition and consumers,” and “will have a greater ability to compete for business that historically has gone to wireline companies”); see also AT&T Corp., Form 10-K (Mar. 15, 2004) (“Consumer long distance voice usage is declining as a result of substitution to wireless services, internet access and e-mail/instant messaging services, particularly in the ‘dial one’ long distance, care and operator services segments.”) available at <http://www.sec.gov/Archives/edgar/data/5907/000095012304003304/y92576e10vk.txt> (last visited July 22, 2005); see also, MCI, Inc., Form 10-K (Apr. 29, 2004) (“[W]ireless telephone companies . . . have increased their network coverage, improved service quality, started to provide bundled wireless products and lowered prices to end-users. As a result, customers are beginning to substitute wireless services for basic wireline service causing these companies to gain market share from providers of wireline voice communications.”) available at <http://www.sec.gov/Archives/edgar/data/723527/000119312504074088/d10k.htm> (last visited July 22, 2005); *Petition to Deny of Qwest Communications Int’l, Inc.*, filed in WC Docket No. 05-65, Apr. 25, 2005, at 35 (“Consumers have demonstrated that they are increasingly willing to replace our wireline service with the wireless services of our competitors.”).

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distance calling is already substantial and growing rapidly.”⁶³ Consumer surveys reveal that wireless service has displaced 60 percent of long distance and 36 percent of local calling from landlines in households with wireless phones.⁶⁴ A Yankee Group survey found that approximately 10 percent of wireless users do not have a landline phone at all.⁶⁵ Industry trends and market demographics suggest that this competition will only intensify.⁶⁶ Indeed, some Wall Street analysts “look for wireless substitution to be the largest displacer of access lines over the next five years.”⁶⁷

The most important manifestation of wireless displacement is that every time someone buys a wireless phone, she has a new telephone line that directly displaces minutes of wireline use. Wireless carriers displace large volumes of telephone calls that were once placed over the switched wireline network. One Wall Street analyst estimated that “approximately 23% of voice minutes in 2003 were wireless” and that in 2004, “wireless could make up approximately 29% of voice minutes in the US.”⁶⁸

⁶³ Keith Mallinson, “Wireless Substitution of Wireline Increases Choice and Competition in Voice Services,” Yankee Group, July 27, 2005 at 1 (attached as Appendix B).

⁶⁴ *Id.* at 7.

⁶⁵ *Id.* at 5.

⁶⁶ See, e.g., Blake Bath, Lehman Brothers, *Wireless Services: Industry Overview, Raising '06-'08 Wireless Net Adds by 50%*, at 3 (June 16, 2005) (increasing by 50% estimates of net wireless subscriber additions through 2008 and predicting that wireline displacement, penetration of the youth market, and expanded wireless data offerings will generate “12-18 million new wireless subscribers per year for the next several years,” resulting in 85 percent market penetration by 2010).

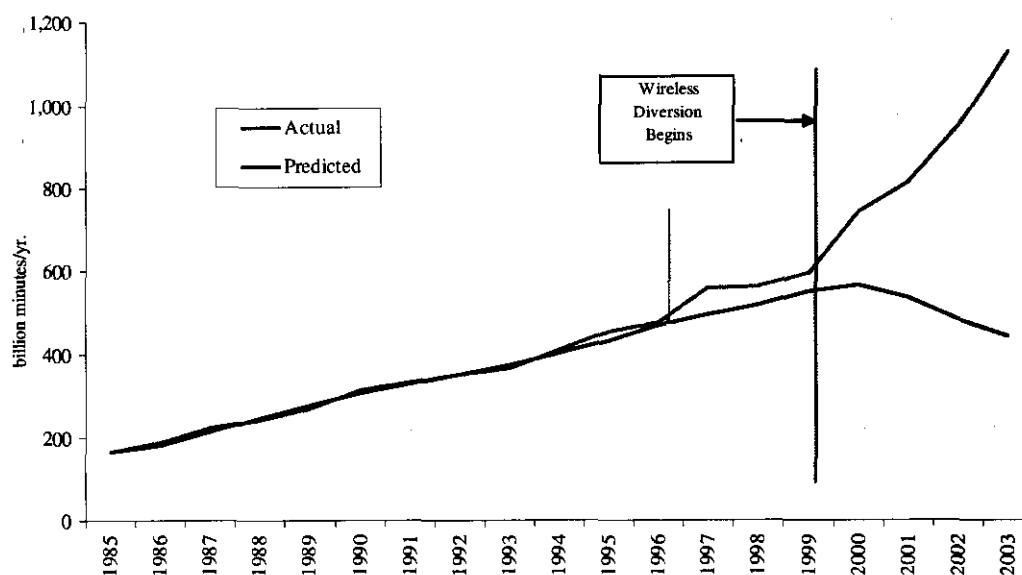
⁶⁷ F. Louthan, *et al.*, Raymond James, *VZ, SBC, BLS, Q: Cable Threat Comparison for RBOCs* at 2 (July 11, 2005); V. Shvets, *et al.*, Deutsche Bank, *The Hotline: 1Q05 Wireline Post-Mortem* at p. 4 (May 9, 2005) (“wireless remains the single biggest killer of both total and retail access lines” and “the rate of wireless cannibalization has accelerated in the last four quarters Although not all numbers are in yet, it is likely that close to [one million] access lines were lost to wireless [in the first quarter of 2005], maintaining the ratio of around 50% of ‘kills.’”).

⁶⁸ Eighth Report, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, 18 FCC Rcd 14783, ¶ 102 (2003) (“*Eighth CMRS Report*”) (“One analyst estimates that wireless

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Much of this displacement is for traditional local wireline minutes. In fact, 61% of wireless calls made from a residence are local.⁶⁹ But the wireless carriers' all-distance plans, beginning in 1999 and 2000, led to massive displacement away from landline long distance calls and, as Crandall and Singer have shown, reversed what had been a steady increase in wireline long distance minutes.⁷⁰

ACTUAL VERSUS PREDICTED TOTAL INTERSTATE SWITCHED ACCESS MINUTES



has now displaced about 30 percent of total wireline minutes.”); *see also* Federal Communications Commission, *9th Annual CMRS Competition Report*, ¶ 213, (rel. September 28, 2004) (hereinafter “*Ninth Annual CMRS Report*”) available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-216A1.pdf (last visited July 29, 2005) (“One analyst estimated . . . that 23 percent of voice minutes in 2003 were wireless, up from 7 percent in 2000.”); David Janazzo, *et al.*, Merrill Lynch, *The Next Generation VIII: The Final Frontier?*, at 5 (Mar. 15, 2004).

⁶⁹ InStat/MDR, “Into Thin Air” at 16 (June 2004).

⁷⁰ *See* Crandall/Singer Decl. ¶ 16.

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"Thanks to unlimited night and weekend minutes . . . cellphone plans are the method of choice when it comes to long distance calling from home."⁷¹ As noted above, one survey concluded that 60 percent of long distance calls in households with wireless phones are now made on wireless.⁷²

The absolute increase in wireless minutes looks like the revenue projections from the business plan of an Internet start-up. By 2004, wireless minutes of use had risen to 1.1 trillion, an increase of 32.7 percent from 2003 and more than 300 percent since 2000.⁷³ This increased usage has been accompanied by a rapid erosion in traditional distinctions between the locations from which subscribers use fixed and mobile service, as subscribers increasingly use their mobile devices at stationary locations from which wireline alternatives would readily be used. For example, a Yankee Group survey found that the percentage of wireless usage in the home by mobile phone users grew from 11.6% to 24.1% of total usage between 2001 and 2005.⁷⁴ The percentages do not fully convey the magnitude of the actual growth in the use of wireless in the home. When these percentages are applied to the total minutes of wireless use, one sees that wireless minutes consumed at home soared from approximately 28 billion in 2001 to

⁷¹ W. Mossberg, *The Mossberg Solution: Turning Your Home Phone into A Cellphone—Call-Forwarding Devices Let You Use Cellular Service on a Traditional Phone*, WALL ST. J. at D6 (Dec. 3, 2003).

⁷² See Keith Mallinson, "Wireless Substitution of Wireline Increases Choice and Competition in Voice Services," Yankee Group, July 27, 2005 at 1.

⁷³ See CTIA-The Wireless Association, *Background on CTIA's Semi-Annual Wireless Industry Survey*, 8, "Reported Wireless Minutes of Use Exceed One Trillion in 2004" (2005), <http://files.ctia.org/pdf/CTIAYearend2004Survey.pdf> (last visited July 25, 2005) (hereinafter "*CTIA Semi-Annual Survey*"); see also Federal Communications Commission, *9th Annual CMRS Competition Report*, (rel. September 28, 2004) available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-216A1.pdf (last visited July 29, 2005).

⁷⁴ Keith Mallinson, *Wireless Substitution of Wireline Increases Choice and Competition in Voice Services*, Yankee Group, July 27, 2005, p. 5. During the same time period, wireless usage in the office grew from 5.5% to 9.7% of total usage. *Id.*

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approximately 297 billion in 2004.⁷⁵ As the report notes, the actual growth in minutes that displace home calling may be much greater, because many wireless users make calls from their cars that they otherwise would have made at home.⁷⁶

Although wireline companies have followed the wireless industry's pricing innovation by introducing their own all-distance rate packages, they so far have failed to staunch the bleeding from wireless competition. The FCC's own data show that average residential wireline toll minutes have declined rapidly for the industry as a whole—from an average of 149 minutes per month in 1997, down to only 90 minutes per month in 2002 (and undoubtedly much less today, given the increase in wireless and decrease in wirelines).⁷⁷ In total, consumers reduced the number of long distance minutes of use on landline phones by 40 percent between 1997 and 2002.⁷⁸ Not surprisingly in light of these trends, data from the Telecom Industry Association reveal that revenue from wireless services has outpaced revenue from wireline long distance since 2003 and will surpass revenue from landline local exchange calls by 2007.⁷⁹

A second form of the general trend of wireless competition is customers' use of wireless phones in lieu of purchasing additional lines from local phone companies. Crandall and Singer

⁷⁵ *Id.* at pp. 1, 5. The minutes of usage at home figure for 2004 is calculated by applying the 2005 usage at home percentage to total wireless minutes for 2004.

⁷⁶ *Id.* at p. 5.

⁷⁷ See Indus. Anal. & Tech. Div., WCB, FCC, *Statistics of the Long Distance Telecommunications Industry*, Table 20 (May 2003) ("*May 2003 Long-Distance Report*") (includes: IntraLATA-Intrastate, InterLATA-Intrastate, IntraLATA-Interstate, InterLATA-Interstate, International, Others (toll-free minutes billed to residential customers, 900 minutes, and minutes for calls that could not be classified)).

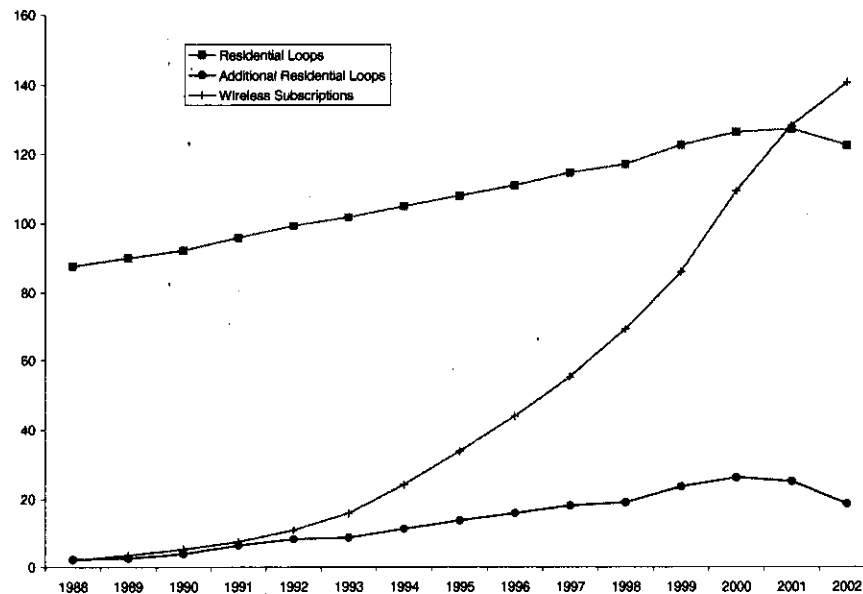
⁷⁸ See *id.*

⁷⁹ See *U.S. Telecoms Services Revenue to Rise 3.6% in 2005—TIA*, Total Telecom (Mar. 4, 2005) (citing TIA's 2005 Market Review and Forecast).

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estimate that wireless displaced roughly 2.6 million non-primary access lines in just 2001 and 2002.

DECLINING RESIDENTIAL LOOPS AND ADDITIONAL RESIDENTIAL LOOPS VERSUS RISING WIRELESS SUBSCRIPTIONS



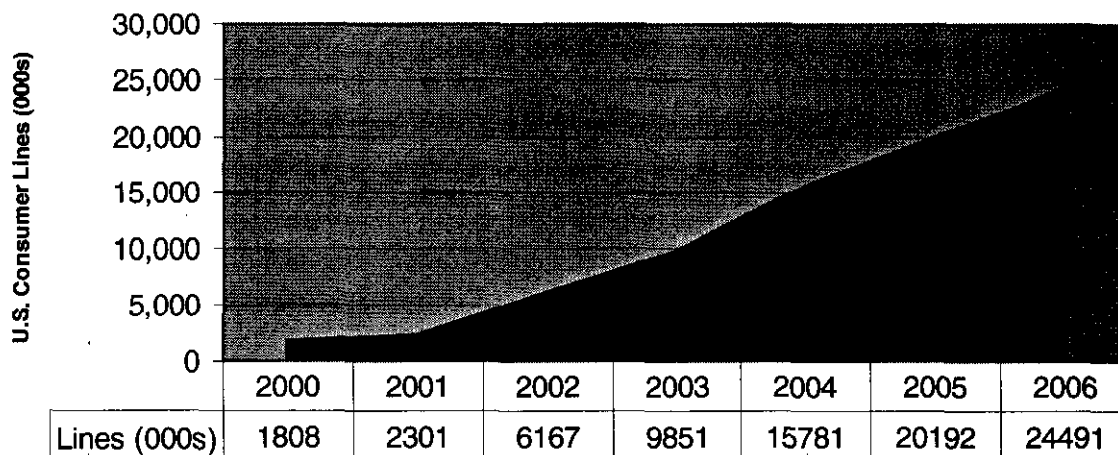
Source: FCC Trends in Telephone Service, May 2004, at Table 7.4.

With so many overall wired and wireless local lines, fewer customers need second and third wired phones. Many households make an economic decision that they would rather buy a phone that is mobile and can be used anywhere, knowing the household still has a primary line.⁸⁰

⁸⁰ New products will erase or reduce in importance the need for a household primary line as a barrier to competition between landline and wireless phones. Several vendors now offer phones that increase wireless coverage in the house and permit wireless phones to serve as a main "family number." For example, RCA Company provides a product that enables the seamless ability to decide whether to make wireless or wireline calls in the home. See Ian Austen, *Better Phone Reception and a Place to Dock, Too*, NEW YORK TIMES (July 21, 2005) <http://www.nytimes.com/2005/07/21/technology/circuits/21cell.html> (last visited July 28, 2005).

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Estimated Cumulative Lines "Lost" to Wireless Since 1999



Source: Blake Bath, Lehman Brothers, Wireless Services Industry Overview: Raising '06-'08 Wireless Net Adds by 50% at Fig. 2 (June 16, 2004).

A third manifestation of wireless competition is that a growing share of wireless subscribers are abandoning their wireline phones altogether—"cutting the cord." As of year-end 2004, approximately 7-10 percent of wireless users had given up their landline phones altogether,⁸¹ up from approximately 2% in 2001.⁸² Analyst estimates are that primary line

⁸¹ Keith Mallinson, "Wireless Substitution of Wireline Increases Choice and Competition in Voice Services," Yankee Group, July 27, 2005 at 5; *see also*, Michael Balhoff, Managing Director, Telecommunications Group, Legg Mason, prepared witness testimony before the Subcommittee on Telecommunications and the Internet of the House Energy and Commerce Committee, Washington, DC (Feb. 4, 2004) <http://energycommerce.house.gov/108/Hearings/02042004hearing1164/Balhoff1850.htm> (last visited July 28, 2005); *see also*, Adam Quinton, Managing Director & First Vice President, Co-Head of Global Telecom Services Research, Merrill Lynch, prepared witness testimony before the Subcommittee on Telecommunications and the Internet of the House Energy and Commerce Committee, Washington, DC (Feb. 4, 2004) <http://energycommerce.house.gov/108/Hearings/02042004hearing1164/Quinton1852.htm> (last visited July 28, 2005); Blake Bath, Lehman Brothers, *Final UNE-P Rules Positive for RBOCs*, at Figure 2 (Dec. 10, 2004); D. Barden, J. Bender, and R. Dezego, Banc of America Securities, *Setting the Bar: Establishing a Baseline for Bell Consumer Market Share*, at 1 (Jun. 14, 2005). One analyst puts the number even, higher, stating that "[b]etween 10% and 15% of the total market is now using wireless exclusively." *Dialing into Wireless Stocks; As Wireless Builds Momentum Against Wireline*, S&P's

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displacement could total 5 million lines in 2005.⁸³ As a result, analysts predict that the number of wireless-only users will grow to 20-25 percent of the market by 2010.⁸⁴ A recent Harris Interactive survey found that 39% of current landline customers are interested in going wireless altogether in the next two years.⁸⁵ And even if they are not replacing their landline phone altogether, at least 14 percent of U.S. consumers now use their wireless phone as their primary phone.⁸⁶

This trend is even more pronounced among younger households. According to Census Bureau data from 2004, 18 percent of households headed by someone under the age of 24 had only a cellular phone, and the same was true for 9.6 percent of households headed by someone

Kenneth Leon Points to the Best Companies in Service and Equipment, Business Week Online (Mar. 10, 2005).

⁸² Blake Bath, Lehman Brothers, *Wireless Services Industry Overview: Raising '06-'08 Wireless Net Adds by 50%* at Fig. 2 (June 16, 2005).

⁸³ See Catherine Cosentino, Standard & Poor's, *FCC Data Supports Standard & Poor's View of Local Telephony Competition* at 1-2 (Feb. 4, 2005) ("There also appears to be some traction developing for the wireless substitution model. According to FCC data, . . . about 3.0 million lines (30% of wireless subscriber additions for the first six months of 2004) may actually represent users that have completely severed the wireline cord. Extrapolating from these statistics, wireless substitution could represent at least 5 million of the wireless subscriber additions for 2005, assuming 10% growth in wireless penetration."); V. Shvets, et al., Deutsche Bank, *4Q04 Review: Wireless OK . . . RBOCs Fare Poorly*, February 28, 2005 ("wireless cannibalization" accounted for approximately 60-70% of "primary residential access line loss," which amounts to "more than 1m lines lost per quarter").

⁸⁴ D. Barden, J. Bender, and R. Dezego, Banc of America Securities, *Setting the Bar: Establishing a Baseline for Bell Consumer Market Share*, at 4 (Jun. 14, 2005); F. Louthan and B. Gordon, *Reassessing the Impact of Access Lines on Wireline Carriers*, at 1 (Jul. 11, 2005) (predicting 25% wireless substitution by 2010).

⁸⁵ See National Consumers League, *National Consumers League Releases Comprehensive Survey about Consumers and Communications Services* (July 21, 2005) http://nclnet.org/news/2005/comm_survey_07212005.htm (last visited July 28, 2005).

⁸⁶ See C. Wheelock, In-Stat/MDR, *Cutting the Cord: Consumer Profiles and Carrier Strategies for Wireless Substitution* at 1 (Feb. 2004) ("14.4% of US consumers currently use a wireless phone as their primary phone.").

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between the ages of 25 and 34.⁸⁷ Furthermore, wireless use among young people is on the rise:

9 out of 10 incoming college students owned a cell phone in 2004, compared to only 1 out of 3 in 2000.⁸⁸ A recent survey of teens found that almost half prefer to communicate with friends using wireless phones, text messages, e-mail, or instant messaging rather than a wireline phone.⁸⁹

These data strongly suggest that wireless displacement will increase going forward.⁹⁰

Wireless and wireline are now close alternatives for each other because wireless companies have cut prices and increased the reliability of their service. Wireless prices have declined nearly 80% over the last decade.⁹¹ The innovation of offering large buckets of minutes for a fixed price has led to substantially lower revenues per minute, but because of the overall growth in use, U.S. carrier average revenue per user actually increased. Customers continue to migrate to these large-bucket plans, which lead to increased displacement of wireline minutes by

⁸⁷ *Household Telephone Service and Usage Patterns in the United States* at 23; see also Mallinson, Keith, "Wireless Substitution of Wireline Increases Choice and Competition in Voice Services," Yankee Group, July 27, 2005 at 5. In addition, more than half the households in the United States now have only one or two people in them, making them more likely to cut the cord because they do not require a landline to provide a number where all family members are reachable. F. Louthan, *et al.*, Raymond James, VZ, SBC, BLS, Q: *Cable Threat Comparison for RBOCs* at 2 (July 11, 2005).

⁸⁸ Susan Kinzie, *Colleges' Land Lines nearing Silent End—Cells Force Review of Dorm Options*, WASH. POST, Feb. 12, 2005 at A1 (citing Student Monitor survey).

⁸⁹ See PEW Internet & American Life Project, *Teens & Technology: Youth are leading the transition to a fully wired and mobile nation*, at iii (July 27, 2005) available at http://www.pewinternet.org/pdfs/PIP_Teens_Tech_July2005web.pdf (last visited July 29, 2005).

⁹⁰ D. Barden, J. Bender, and R. Dezego, Banc of America Securities, *Setting the Bar: Establishing a Baseline for Bell Consumer Market Share*, at 1, 4 (Jun. 14, 2005) ("We believe that the growth in wireless replacement is in large part a function of demographic shifts, as younger consumers who grew up with wireless start to form homes and opt not to take a wireline phone."); B. Bath, Lehman Brothers, *Wireless Services: Industry Overview, Raising '06-'08 Wireless Net Adds by 50%*, at 1 (June 16, 2005) (predicting that wireless penetration of the youth market will generate 6-8 million new subscribers per year for the next several years); F. Louthan and B. Gordon, *Reassessing the Impact of Access Lines on Wireline Carriers*, at 3 (Jul. 11, 2005) ("[d]emographic data points to continued wireless substitution going forward").

⁹¹ CTIA *SemiAnnual Wireless Survey*, 2005.

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wireless. Other forms of wireless technology are also poised to hit the market. For example, Sprint is running trials in five cities of Telular's technology, which provides a wireless unit at home that enables the family phone number to ring on the home phone as well as mobile phones.⁹²

Wireless and wireline prices for similar service offerings are now comparable.⁹³

According to one analyst, "[w]ireless pricing dropped below wireline pricing in 2003 for the first time."⁹⁴ The services are highly cross-elastic. An econometric analysis by the Competitive Enterprise Institute found that "a one percent increase in wireline prices would result in a nearly 2 percent increase in wireless demand. In other words, if wireline carriers were to increase their prices, wireless service providers would gain a substantial number of subscribers."⁹⁵ Just as important, the wireless carriers would gain a substantial number of minutes.

Wireless carriers also have increased the quality of wireless services and expanded their geographic reach to the point where customers generally can choose whether to make the next call on the wireless or wireline phone at their home or small office.⁹⁶ The FCC noted in its Ninth CMRS Competition Report that carriers now compete on quality and have invested tens of

⁹² Telular Press Release, *Telular Corporation Announces Market Trial with U.S. Wireless Carrier for Phioncell Fixed Wireless Terminal* (Oct. 20, 2004).

⁹³ See Decl. of Hasset *et al.*, p.1 of Exh. 2.

⁹⁴ V. Grover, Neeham, *New Year's Resolution—Avoid the Bells*, at 1 (Dec. 29, 2003).

⁹⁵ Stephen B. Pociask, Competitive Enterprise Institute, *Wireless Substitution and Competition: Different Technology but Similar Service—Redefining the Role of Telecommunications Regulation* at 15 (Dec. 15, 2004) available at <http://www.cei.org/pdf/4329.pdf> (last visited July 29, 2005).

⁹⁶ C. Wheelock, In-Stat/MDR, *Cutting the Cord: Consumer Profiles and Carrier Strategies for Wireless Substitution* at 60 (Feb. 2004) ("Barriers to wireline replacement, particularly network coverage and quality-of-service, are relatively low and that wireless carriers are working aggressively to neutralize these shortcomings.").

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billions to ensure that consumers get more reliable wireless service.⁹⁷ Carriers have invested a cumulative \$174 billion in their networks and increased the number of cell sites to nearly 176,000, up 75% from the year 2000 alone.⁹⁸ Cingular, for example, is making substantial investments in denser cell sites and better quality networks.⁹⁹

The result is high-quality wireless service that is in many respects becoming indistinguishable from landline calling. One key measure of quality on a wireless (or wireline) network is the call completion rate. A study by the GAO found that the "industry standard" in the wireless industry is a "98 percent call-completion rate" and that the vast majority of consumers experience few or no problems with dropped calls.¹⁰⁰ Another study by CTIA and Telephia similarly found that "on average wireless customers, in core and suburban areas, can expect to place, hold and complete a conversation of acceptable audio quality 96-99 % of the time."¹⁰¹ In any event, to the extent consumers do experience problems with dropped calls, it is chiefly due to the subscriber moving locations during the call,¹⁰² a feature that wireline networks

⁹⁷ See *Ninth Annual CMRS Competition Report*, at ¶148.

⁹⁸ See *CTIA Semi-Annual Survey*, 2005.

⁹⁹ See Federal Communications Commission, *9th Annual CMRS Competition Report*, ¶149, (September 28, 2004) http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-216A1.pdf (last visited July 28, 2005).

¹⁰⁰ General Accounting Office, *FCC Should Include Call Quality in Its Annual Report on Competition in Mobile Phone Services* at 22, Report No. GAO-03-501 (Apr. 2003) ("While carriers did not provide us with detailed information on blocked and dropped calls, network officials at two carriers said that their goal was to have a 98 percent call-completion rate. . . . These officials and those at other carriers said that 98 percent is generally the industry standard."); *id.* at 29 (finding that 78 percent of consumers either did not experience problems with dropped calls or experienced problems on fewer than 10 percent of their calls).

¹⁰¹ CTIA Press Release, *Market Research Finds Outstanding Wireless Network Performance* (July 18, 2001).

¹⁰² See FCC, *Understanding Cell Phone Coverage Areas*, <http://www.fcc.gov/cgb/consumerfacts/cellcoverage.pdf> (last visited July 30, 2005) ("When a carrier fails to hand off a call in progress as a consumer travels from one part of the carrier's network to another, it is called a 'dropped call.'").

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do not offer in the first place. Carriers are also spending large sums to increase their geographic coverage.¹⁰³

Consistent with these developments, consumers now report high levels of satisfaction with the quality of their wireless service. For example, the GAO found that 83 percent of wireless users were satisfied with the call quality of their cell phone, while only 9 percent were dissatisfied.¹⁰⁴ A September 2004 survey by J.D. Power and Associates found that “[o]verall satisfaction with wireless service providers has increased 5 percent over 2003” and that satisfaction with call quality increased by 7 percent during that same period.¹⁰⁵

Finally, entirely new forms of non-traditional wireless technologies will continue to increase consumer choices when making voice calls. WiFi is already a well-documented and growing phenomenon. So-called “hot spots” are proliferating; one company that mapped parts of the Boston metropolitan area found 70,000 access points there alone.¹⁰⁶ WiMAX, a wireless

¹⁰³ Blake Bath, Lehman Brothers, *Wireless Services: Industry Update: Increasing Demands Drive 04 Capex Higher* at 5 (Dec. 5, 2003) (“much of the increases” that wireless carriers are making in capital spending in 2004 are “coverage-related,”— “almost all [wireless carriers] express a desire to increase coverage at the edges of their networks or to fill in holes in their coverage.”).

¹⁰⁴ General Accounting Office, *FCC Should Include Call Quality in Its Annual Report on Competition in Mobile Phone Services* at 27, Report No. GAO-03-501 (Apr. 2003).

¹⁰⁵ J.D. Power and Associates Press Release, *J.D. Power and Associates Reports: Satisfaction with Wireless Service Providers Increases Significantly as Customers Report Higher Ratings in Call Quality and Cost-Related Attributes* (Sept. 9, 2004).

¹⁰⁶ “Start-up Uses WiFi Signals to Pinpoint Location,” *Network World* (June 22, 2005) at 19. These developments have in turn sparked the development of new WiFi-enabled phones. In January 2005, UTStarcom, Inc., announced the debut of its F1000 portable Wi-Fi handset for the U.S. market, which it will soon provide in partnership with Vonage. Other manufacturers such as Motorola and Nokia are expected to offer WiFi phones in 2006. Dual-mode Wi-Fi/cellular phones, which offer cheap calls inside hotspots and reliable coverage everywhere else, also will be on the market. Other forms of hybrid phones are also planned. Skype has reached an agreement with Motorola that aims to embed Skype software in a number of Motorola Wi-Fi-, 3G-, and even WiMax-enabled mobile phones in the near future. Boingo Wireless Press Release, *Skype Users Can Add 18,000 Boingo Hot Spots Via New “Skype Zones— Powered by Boingo” Service*, July 12, 2005.

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